Dominion® KX II

Questions	Answers
General Questions	
What is Dominion KX II?	Dominion KX II is a second generation digital KVM (keyboard / video / mouse) switch that enables IT administrators to access and control 8, 16, 32 or 64 servers over the network with BIOS-level functionality. Dominion KX II is completely hardware and OS-independent; users can troubleshoot and reconfigure servers even when servers are down. At the rack, Dominion KX II provides the same functionality, convenience, space savings and cost savings as traditional analog KVM switches. However, Dominion KX II also integrates the industry's highest-performing KVM-over-IP technology, allowing multiple administrators to access server KVM consoles from any networked workstation.
How does Dominion KX II differ from remote control software?	When using Dominion KX II remotely, the interface, at first glance, may seem similar to remote control software such as pcAnywhere™, Windows® Terminal Services / Remote Desktop, VNC, etc. However, because Dominion KX II is not a software but a hardware solution, it's much more powerful: • OS- and hardware-independent – Dominion KX II can be used to manage servers running many popular OS, including Intel®, Sun™, PowerPC running Windows, Linux®, Solaris™, etc. • State-independent / Agentless – Dominion KX II does not require the managed server OS to be up and running, nor does it require any special software to be installed on the managed server. • Out-of-Band – Even if the managed server's own network connection is unavailable, it can still be managed through Dominion KX II. • BIOS-level access – Even if the server is hung at boot up, requires booting to safe mode, or requires system BIOS parameters to be altered, Dominion KX II still works flawlessly to enable these configurations to be made.
How do the new features of the Dominion KX II compare to the KX I?	Dominion KX II has many new and exciting features, including virtual media, dual power, dual gigabit Ethernet, common Web-based user interfaces, next generation local port, etc. See the "Features and Benefits" tab on the KX II Web pages on Raritan.info/KXII.
How do I migrate from the Dominion KX I to Dominion KX II?	In general, KX I customers can continue to use their existing switches for many years. As their data centers expand, customers can purchase and use the new KX II models. Raritan's centralized management appliance, CommandCenter® Secure Gateway, and the Multiplatform Client both support KX I and KX II switches seamlessly.
Will my existing KX I CIMs work with the Dominion KX II switch?	Yes, existing KX I CIMs will work with the Dominion KX II switch. In addition, select Paragon CIMs will work with the KX II. This provides an easy migration to KX II from Paragon I customers who wish to switch to KVM-over-IP.

<table>
<tr><th>Questions</th><th>Answers</th></tr>
<tr><td>Can Dominion KX II be rack mounted?</td><td>Yes, The Dominion KX II ships standard with 19” rack mount brackets. It can also be reverse rack mounted so the server ports face forward.</td></tr>
<tr><td>How large is Dominion KX II?</td><td>Dominion KX II is only 1U in height (except KX464 is a 2U), fits in a standard 19” rack mount, and occupies only 29 cm in depth.</td></tr>
<tr><td colspan="2">Remote Access</td></tr>
<tr><td>How many users can remotely access servers on each Dominion KX II?</td><td>Dominion KX II models offer remote connections for up to eight users per user channel to simultaneously access and control a unique target server. For one-channel devices like the DKX2-116, up to eight remote users can access and control a single target server. For two-channel devices, like the DKX2-216, up to eight users can access and control the server on channel one and up to another eight users on channel two. For four-channel devices, up to eight users per channel, for a total of 32 (8 x 4) users, can access and control four servers in a similar fashion.</td></tr>
<tr><td>Can two people look at the same server at the same time?</td><td>Yes, actually up to eight people can access and control any single server at the same time.</td></tr>
<tr><td>Can two people access the same server, one remotely and one from the local port?</td><td>Yes, the local port is completely independent of the remote “ports.” The local port can access the same server using the PC-Share feature.</td></tr>
<tr><td>In order to access Dominion KX II from a client, what hardware, software or network configuration is required?</td><td>Because Dominion KX II is completely Web-accessible, it doesn’t require customers to install proprietary software on clients used for access. (An optional installed client is available on Raritan.info: this is required for access by external modem.

Dominion KX II can be accessed through major Web browsers including: Internet Explorer, Mozilla® and Firefox®. Dominion KX II can now be accessed on Windows®, Linux®, Sun Solaris™ and Macintosh® desktops, via Raritan’s Java-based Multiplatform Client (MPC) and the new Virtual KVM Client™.

Dominion KX II administrators can also perform remote management (set passwords and security, rename servers, change IP address, etc.) using a convenient browser-based interface.</td></tr>
<tr><td>What is the file size of the applet that’s used to access Dominion KX II? How long does it take to retrieve?</td><td>The Virtual KVM Client applet used to access Dominion KX II is approximately 500KB in size. The following chart describes the time required to retrieve Dominion KX II’s applet at different network speeds:

<table>
<tr><td>100Mbps</td><td>Theoretical 100Mbit network speed</td><td>0.05 seconds</td></tr>
<tr><td>60Mbps</td><td>Likely practical 100Mbit network speed</td><td>0.08 seconds</td></tr>
<tr><td>10Mbps</td><td>Theoretical 10Mbit network speed</td><td>.4 seconds</td></tr>
<tr><td>6Mbps</td><td>Likely practical 10Mbit network speed</td><td>.8 seconds</td></tr>
<tr><td>512Kbps</td><td>Cable modem download speed (typical)</td><td>8 seconds</td></tr>
</table>
</td></tr>
<tr><td>How do I access servers connected to Dominion KX II if the network ever becomes unavailable?</td><td>Dominion KX II offers a dedicated modem port for attaching an external modem, so you can access your servers via modem if the network is unavailable.</td></tr>
</table>

Questions	Answers
Do you have a non-Windows client?	Yes. Both the Virtual KVM Client and the Multiplatform Client (MPC), allow non-Windows users to connect to target servers through the Dominion KX I and KX II switches. MPC can be run via Web browsers and standalone. Please refer to Raritan's Dominion KX II and MPC User Guides for more information.
Universal Virtual Media	
What Dominion KX II models support virtual media?	All Dominion KX II models support virtual media. It is available standalone and through CommandCenter® Secure Gateway, Raritan's centralized management appliance.
What types of virtual media does the Dominion KX II support?	Dominion KX II supports the following types of media: internal and USB-connected CD/DVD drives, USB mass storage devices, PC hard drives and ISO images.
What is required for virtual media?	A Dominion KX II virtual media CIM is required. There are two of these CIMs: the D2CIM-VUSB and the new D2CIM-DVUSB. The **D2CIM-DVUSB** has dual USB connectors and should be purchased by customers who wish to utilize virtual media at the BIOS level. The **D2CIM-VUSB** has a single USB connector and is for customers who will use virtual media at the OS level. Both support virtual media sessions to target servers supporting the USB 2.0 interface. Available in economical 32 and 64 quantity CIM packages, these CIMs support Absolute Mouse Synchronization™ as well as remote firmware update.
Is virtual media secure?	Yes. Virtual media sessions are secured using 128-bit AES or RC4 encryption.
What is a USB Profile?	Certain servers require a specifically configured USB interface for USB based services such as virtual media. The USB Profile tailors the KX II's USB interface to the server to accommodate these server specific characteristics.
Why would I use a USB Profile?	USB Profiles are most often required at the BIOS level where there may not be full support for the USB specification when accessing virtual media drives. However, profiles are sometimes used at the OS level, for example, for mouse synchronization for Mac® and Linux® servers.
How is a USB Profile used?	Individual or groups of ports can be configured by the administrator to use a specific USB profile in the KX II's Port Configuration pages. A USB profile can also be selected in the KX II client when required. See the user guide for more information.
Do I always need to set a USB Profile when I use virtual media?	No, in many cases, the default USB Profile is sufficient when using virtual media at the OS level or operating at the BIOS level without accessing virtual media.

Questions	Answers
What Profiles are available? Where can I find more information?	Consult the User Guide for the available profiles and for more information.
Ethernet and IP Networking	
How is bandwidth used in KVM-over-IP systems?	Dominion KX II offers next generation KVM-over-IP technology – the very best video compression available. Raritan has received numerous technical awards confirming its high video quality transmissions and the low bandwidth utilization. The Dominion KX II digitizes, compresses and encrypts the keyboard, video and mouse signals from the target server and transmits IP packets over the IP network to the remote client to create the remote session to the user. The KX II provides an at-the-rack experience based on its industry leading video processing algorithms. Screen changes, i.e. video, accounts for the majority of the bandwidth used – keyboard and mouse activity is significantly less. It is important to note that bandwidth is only used when the user is active. The amount of bandwidth used is based on the amount of change to the server's video display screen. If there are no changes to the video – the user is not interacting with the server – there is generally no bandwidth used. If the user moves the mouse or types a character, then there is a small amount of bandwidth used. If the display is running a complex screen saver or playing a video, then there can be a larger amount of bandwidth used.
How does bandwidth affect KVM-over-IP performance?	In general, there is a trade-off between bandwidth and performance. The more bandwidth available, the better performance can be. In limited bandwidth environments, performance can degrade. The Dominion KX II has been optimized to provide strong performance in a wide variety of environments.
What factors affect bandwidth?	There are many factors that determine how much bandwidth will be used. The primary factor, as discussed previously, is the amount of change in the target server's video display. This is dependent on the user's task and actions. Other factors include the server's video resolution, networking speed and characteristics, client PC resources, and video card noise. The Dominion KX II has very sophisticated video processing algorithms that optimize bandwidth and performance for a variety of environments. In addition, they are highly configurable; there are many settings to optimize bandwidth usage. In particular, the Connection Speed setting in the remote clients (VKC, MPC) can be set to reduce the bandwidth used. Unlike KX I, the "Noise Filter" parameter does not generally have a large role in reducing bandwidth or improving performance.

Questions	Answers
How much bandwidth does KX II use for common tasks?	As discussed previously, bandwidth primarily depends on the user's task and actions. The more the server's video screen changes, the more bandwidth is utilized. The table below summarizes some standard use cases at Dominion KX II's default and with two reduced bandwidth settings (Connection Speed setting of 1Mb with 15 and 8 bit color) on a Windows® XP target server (1024x768 resolution) over a 100 Mbit/s LAN:

User Task	Default	1Mb Speed & 15 bit Color	1Mb Speed & 8 Bit Color
Idle Windows Desktop	0 KB/s	0 KB/s	0 KB/s
Move Mouse Cursor	5 - 15 KB/s	2 – 6 KB/s	2 - 3 KB/s
Drag Icon	40 - 70 KB/s	10-25 KB/s	5 – 15 KB/s
Drag Folder	10 - 40 KB/s	5 - 20 KB/s	5 – 10 KB/s
Open Text Window	50 - 100 KB/s	25 – 50 KB/s	10 – 15 KB/s
Continuous Typing	1 KB/s	.5 - 1 KB/s	.2 - .5 KB/s
Scroll Text Window	10 - 50 KB/s	5 -25 KB/s	2 – 10 KB/s
Close Text window	50 - 100 KB/s	20 – 40 KB/s	10 – 15 KB/s
Open Panel	50 - 100 KB/s	60 – 70 KB/s	20 – 30 KB/s
Change Tab in Panel	40 - 50 KB/s	20 – 50 KB/s	10 – 20 KB/s
Close Panel	50 - 100 KB/s	40 – 60 KB/s	20 – 30 KB/s
Change Panel Option	2 - 10 KB/s	1 – 5 KB/s	1- 3 KB/s
Open Browser Page	100 - 300 KB/s	50 – 200 KB/s	40 – 80 KB/s
Scroll Browser	75 - 200 KB/s	50 – 200 KB/s	30 – 100 KB/s
Close Browser	100 - 150 KB/s	75 – 100 KB/s	30 – 60KB/s
Open Start Menu	75 - 100 KB/s	50 -75 KB/s	20 – 30 KB/s
Close Start menu	75 - 100 KB/s	25 – 50 KB/s	10 – 15 KB/s
Starfield Screen Saver	25 - 50 KB/s	10 – 15 KB/s	7 – 10 KB/s
3D Pipes Screen Saver	10 - 100 KB/s	5 - 20 KB/s	2 – 10 KB/s
Windows Media Video	500 - 1200 KB/s	300 – 500 KB/s	150 – 300 KB/s
QuickTime Video #1	700 - 2500 KB/s	400 – 500 KB/s	150 – 350 KB/s
QuickTime Video #2	1500 - 2500 KB/s	400 - 550 KB/s	200 – 350 KB/s

With the reduced bandwidth settings, bandwidth is reduced significantly for virtually all tasks. With the 15 bit color setting, perceived performance is similar to the default parameters. Further bandwidth reductions are possible with additional changes in the settings.

Please note that these bandwidth figures are only examples and may vary from those seen in your environment due to many factors.

Questions	Answers
How can I reduce bandwidth?	KX II provides a variety of settings in our remote clients for the user to optimize bandwidth and performance. The default settings will provide an at-the-rack level of performance in standard LAN/WAN environments with economical use of bandwidth. Bandwidth management settings include the Connection Speed and Color Depth. To reduce bandwidth: **Connection speed**. Reducing the connection speed can significantly reduce the bandwidth used. In a standard LAN/WAN environments, setting the connection speed to 1.5 or 1Mbit per second will reduce bandwidth while maintaining good performance. Settings below this will further reduce bandwidth and are appropriate for slow bandwidth links. **Color Depth**. Reducing the color depth will also significantly decrease bandwidth and increase performance, but fewer colors will be used resulting in video degradation. This may be acceptable for certain system administration tasks. For slow Internet connections, use of 8 bit color or lower bit depths can reduce bandwidth and improve performance. Other tips to decrease bandwidth include : • Use a solid desktop background instead of a complex image • Disable screen savers • Use a lower resolution on the target server. • Uncheck the “Show window contents while dragging” option in Windows • Use simple images, themes and desktops (e.g. Windows Classic
What should I do on slower bandwidth links?	The Connection Speed and Color Depth settings can be tweaked to optimize performance for slower bandwidth links. For example, in the Multi-Platform Client or the Virtual KVM Client, set the Connection Speed to 1.5Mb or 1Mb; and the Color Depth to 8 bit. Even lower Connection Speeds and Color Depths can be used for very low bandwidth situations. For modem connections, the KX II will automatically default to a very low connection speed and reduced color depth to optimize performance.
I want to connect over the Internet. What type of performance should I expect?	It depends on the bandwidth and latency of the Internet connection between your remote client and the KX II. With a cable modem or high speed DSL connection, your performance can be very similar to a LAN/WAN connection. For lower speed links, use the suggestions above to improve performance.
I have a high bandwidth environment. How can I optimize performance?	The default settings will provide strong performance in a high bandwidth environment. Ensure that the Connection Speed is set to 100Mb or 1Gb and the Color Depth is set to 15 bit RGB Color.
What is the speed of Dominion KX II’s Ethernet interfaces?	Dominion KX II supports Gigabit as well as 10/100 Ethernet. KX II supports two 10/100/1000 speed Ethernet interfaces, with configurable speed and duplex settings (either auto-detected or manually set).

Questions	Answers
Can I access Dominion KX II over a wireless connection?	Yes. Dominion KX II not only uses standard Ethernet, but also very conservative bandwidth with very high quality video. Thus, if a wireless client has network connectivity to a Dominion KX II, servers can be configured and managed at BIOS-level wirelessly.
Does the Dominion KX II offer dual gigabit Ethernet ports to provide redundant fail-over, or load balancing?	Yes. Dominion KX II features dual gigabit Ethernet ports to provide redundant failover capabilities. Should the primary Ethernet port (or the switch/router to which it is connected) fail, Dominion KX II will failover to the secondary network port with the same IP address – ensuring that server operations are not disrupted. Note that automatic failover must be enabled by the administrator.
Can I use Dominion KX II with a VPN?	Yes. Dominion KX II uses standard Internet Protocol (IP) technologies from Layer 1 through Layer 4. Traffic can be easily tunneled through standard VPNs.
How many TCP ports must be open on my firewall in order to enable network access to Dominion KX II? Are these ports configurable?	Only one. Dominion KX II protects network security by only requiring access to a single TCP port to operate. This port is completely configurable for additional security. Note that, of course, to use Dominion KX II's optional Web browser capability, the standard HTTPS port 443 must also be open.
Does Dominion KX II require an external authentication server to operate?	No. Dominion KX II is a completely self-sufficient appliance. After assigning an IP address to a Dominion KX II, it is ready to use – with Web browser and authentication capabilities completely built-in. If an external authentication server (such as LDAP, Active Directory®, RADIUS, etc.) is used, Dominion KX II allows this as well, and will even failover to its own internal authentication should the external authentication server become unavailable. In this way, Dominion KX II's design philosophy is optimized to provide ease of installation, complete independence from any external server and maximum flexibility.
Can Dominion KX II be used with CITRIX?	Dominion KX II may work with remote access products like CITRIX if configured appropriately, but Raritan cannot guarantee it will work with acceptable performance. Customers should realize that products like CITRIX utilize video redirection technologies similar in concept to digital KVM switches so that two KVM-over-IP technologies are being used simultaneously.
Can the Dominion KX II use DHCP?	DHCP addressing can be used, however, Raritan recommends fixed addressing since the Dominion KX II is an infrastructure device and can be accessed and administered more effectively with a fixed IP address.
I'm having problems connecting to the Dominion KX II over my IP network. What could be the problem?	The Dominion KX II relies on the customer's LAN/WAN network. Some possible problems include: • Ethernet auto negotiation. On some networks, 10/100 auto negotiation does not work properly and the KX II unit must be set to 100MB/full duplex or the appropriate choice for its network. • Duplicate IP Address. If the IP Address of the KX II is the same as another device, network connectivity may be inconsistent. • Port 5000 conflicts. If another device is using port 5000, the KX II default port must be changed (or the other device must be changed). • When changing the IP Address of a KX II, or swapping in a new KX II, sufficient time must be allowed for its IP and Mac addresses to be known throughout the Layer 2 and Layer 3 networks.
IPv6 Networking	

Questions	Answers
What is IPv6?	IPv6 is the acro1nym for "Internet Protocol Version 6". IPv6 is the "next generation" IP protocol which will replace the current IP Version 4 ("IPv4") protocol. IPv6 addresses a number of problems in IPv4, such as the limited number of IPv4 addresses. It also improves IPv4 in areas such as routing and network auto-configuration. IPv6 is expected to gradually replace IPv4, with the two coexisting for a number of years. IPv6 helps one of the largest headaches of an IP network from the administrator's point of view; configuring and maintaining an IP network.
Why does Dominion KX II support IPv6 networking?	US government agencies and the Department of Defense are now mandated to purchase IPv6 compatible products. In addition, many enterprises and foreign countries such as China will be transitioning to IPv6 over the next several years.
What is "dual stack" and why is it required?	"Dual Stack" is the ability to simultaneously support both IPv4 and IPv6 protocols. Given the gradual transition from IPv4 to IPv6, dual stack is a fundamental requirement for IPv6 support.
How do I enable IPv6 on the KX II?	Use the "Network Settings" page, available from the "Device Settings" tab. Enable IPv6 addressing and choose manual or auto-configuration. Consult the users guide for more information.
What if I have an external server with an IPv6 address that I want to use with my KX II?	The Dominion KX II can access external servers via their IPv6 addresses, for example an SNMP Manager, Syslog server, or LDAP server. Using the KX II's dual-stack architecture, these external servers can be accessed via (1) an IPv4 address, (2) IPv6 address or (3) hostname. So the Dominion KX II supports the mixed IPv4/IPv6 environment many customers will have.
Does the Dominion KX I (the previous generation KX) support IPv6?	No, the Dominion KX I does not support IPv6 addresses.
What if my network doesn't support IPv6?	The Dominion KX II's default networking is set at the factory for IPv4 only. When you are ready to use IPv6, then follow the above instructions to enable IPv6/IPv4 dual stack operation.
Where can I get more information on IPv6?	See www.ipv6.org for general information on IPv6. The Dominion KX II User Guide describes the Dominion KX II's support for IPv6.
Servers	
Does Dominion KX II depend on a Windows server to operate?	Absolutely not. Because users depend on the KVM infrastructure to always be available in any scenario whatsoever (as they will likely need to use the KVM infrastructure to fix problems), Dominion KX II is designed to be completely independent from any external server. For example, should the data center come under attack from a malicious Windows worm or virus, administrators will need to use the KVM solution to resolve the situation. Therefore, it is imperative that the KVM solution, in turn, must not rely on these same Windows servers (or any server, for that matter) to be operational in order for the KVM solution to function. To this end, Dominion KX II is completely independent. Even if a user chooses to configure the Dominion KX II to authenticate against an Active Directory server – if that Active Directory server becomes unavailable, Dominion KX II's own authentication will be activated and fully functional.

Questions	Answers
Do I need to install a Web server such as Microsoft Internet Information Services (IIS) in order to use Dominion KX II's Web browser capability?	No. Dominion KX II is a completely self-sufficient appliance. After assigning an IP address to Dominion KX II, it's ready to use – with Web browser and authentication capabilities completely built-in.
What software do I have to install in order to access Dominion KX II from a particular workstation?	None. Dominion KX II can be accessed completely via a Web browser (although an optional installed client is provided on Raritan's Web site Raritan.info, which is required for modem connections). A Java-based client is now available for non-Windows users.
What should I do to prepare a server for connection to Dominion KX II?	Simply set the mouse parameters in order to provide users with the best mouse synchronization during remote connections, as well as turning off the power management features that effect screen display. However, if the Absolute Mouse Synchronization™ is supported through the new D2CIM-VUSB adapter, then manually setting the mouse parameters isn't necessary.
What comes in the Dominion KX II box?	The following is included: (a) Dominion KX II unit; (b) Quick Setup Guide; (c) standard 19" rack mount brackets; (d) User manual CD-ROM; (e) Network cable; (f) Crossover cable; (g) Localized AC Line Cord; (h) Warranty certificate and other documentation.
Installation	
Besides the unit itself, what do I need to order from Raritan to install Dominion KX II?	Each server that connects to Dominion KX II requires a Dominion or Paragon Computer Interface Module (CIM), an adapter that connects directly to the keyboard, video and mouse ports of the server.
What kind of Cat5 cabling should be used in my installation?	Dominion KX II can use any standard UTP (unshielded twisted pair) cabling, whether Cat5, Cat5e, or Cat6. Often in our manuals and marketing literature, Raritan will simply say "Cat5" cabling for short. In actuality, any brand UTP cable will suffice for Dominion KX II.
What types of servers can be connected to Dominion KX II?	Dominion KX II is completely vendor independent. Any server with standard-compliant keyboard, video, and mouse ports can be connected.
How do I connect servers to Dominion KX II?	Servers that connect to the Dominion KX II require a Dominion or Paragon CIM, which connects directly to the keyboard, video, and mouse ports of the server. Then, connect each CIM to Dominion KX II using standard UTP (twisted pair) cable such as Cat5, Cat5e, or Cat6.
How far can my servers be from Dominion KX II?	In general servers can be up to 45 meters away from Dominion KX II depending on the type of server. (See user manual printed or on Web site). For the new D2CIM-VUSB CIM that supports virtual media and Absolute Mouse Synchronization, a 30 meters range is recommended.
Some operating systems lock up when I disconnect a keyboard or mouse during operation. What prevents servers connected to Dominion KX II from locking up when I switch away from them?	Each Dominion computer interface module (DCIM) dongle acts as a virtual keyboard and mouse to the server to which it is connected. This technology is called KME (keyboard/mouse emulation). Raritan's KME technology is data center grade, battle-tested and far more reliable than that found in lower-end KVM switches: it incorporates more than 15 years of experience and has been deployed to millions of servers worldwide.
Are there any agents that must be installed on servers connected to Dominion KX II?	Servers connected to Dominion KX II do not require any software agents to be installed, because Dominion KX II connects directly via hardware to servers' keyboard, video and mouse ports.
How many servers can be connected to each Dominion KX II unit?	Dominion KX II models range from 8, 16 or 32 server ports in a 1U chassis to 64 server ports in a 2U chassis. This is the industry's highest digital KVM switch port density.

Questions	Answers
What happens if I disconnect a server from Dominion KX II and reconnect it to another Dominion KX II unit, or connect it to a different port on the same Dominion KX II unit?	Dominion KX II will automatically update the server port names when servers are moved from port to port. Furthermore, this automatic update does not just affect the local access port, but propagates to all remote clients and the optional CommandCenter® Secure Gateway management appliance.
How do I connect a serially controlled (RS-232) device to Dominion KX II, such as a Cisco® router/switch or a headless Sun™ server?	If there are only a few serially-controlled devices, they may be connected to a Dominion KX II using Raritan's serial adapter, AUATC, or the new P2CIM-SER serial converter. However, if there are four or more serially-controlled devices, we recommend the use of Raritan's Dominion SX line of secure console servers. For multiple serial devices, Dominion SX offers more serial functionality at a better price point than Dominion KX II. This SX is easy to use, configure and manage, and can be completely integrated with a Dominion Series deployment. In particular, many UNIX® and networking administrators appreciate the ability to directly SSH to a Dominion SX unit.
Local Port	
Can I access my servers directly from the rack?	Yes. At the rack, Dominion KX II functions just like a traditional KVM switch – allowing control of up to 64 servers using a single keyboard, monitor and mouse.
When I am using the local port, do I prevent other users from accessing servers remotely?	No. The Dominion KX II local port has a completely independent access path to the servers. This means a user can access servers locally at the rack – without compromising the number of users that access the rack remotely at the same time.
Can I use a USB keyboard or mouse at the local port?	Yes. Dominion KX II offers both PS/2 and USB keyboard and mouse ports on the local port. Note that the USB ports are USB v1.1, and support keyboards and mice only – not USB devices such as scanners or printers.
Is there an On-Screen Display (OSD) for local, at-the-rack access?	Yes, but Dominion KX II's at-the-rack access goes way beyond conventional OSD's. Featuring the industry's first browser-based interface for at-the-rack access, KX II's local port uses the same interface for local and remote access. Moreover, most administrative functions are available at-the-rack.
How do I select between servers while using the local port?	The local port displays the connected servers using the same user interface as the remote client. Users connect to a server with a simple click of the mouse.
How do I ensure that only authorized users can access servers from the local port?	Users attempting to use the local port must pass the same level of authentication as those accessing remotely. This means that: • If the Dominion KX II is configured to interact with an external RADIUS, LDAP or Active Directory® server, users attempting to access the local port will authenticate against the same server. • If the external authentication servers are unavailable, Dominion KX II fails-over to its own internal authentication database. Dominion KX II has its own standalone authentication, enabling instant, out-of-the-box installation.
If I use the local port to change the name of a connected server, does this change propagate to remote access clients as well? Does it propagate to the optional CommandCenter appliance?	Yes. The local port presentation is identical and completely in sync with remote access clients, as well as Raritan's optional CommandCenter® Secure Gateway management appliance. To be clear, if the name of a server via the Dominion KX II on-screen display is changed, this updates all remote clients and external management servers in real-time.

Questions	Answers
If I use Dominion KX II's remote administration tools to change the name of a connected server, does that change propagate to the local port OSD as well?	Yes. If the name of a server is changed remotely, or via Raritan's optional CommandCenter Secure Gateway management appliance, this update immediately affects Dominion KX II's on-screen display.
Power Control	
Does Dominion KX II have a dual power option?	All KX II models come equipped with dual AC inputs and power supplies with automatic fail-over. Should one of the power inputs or power supplies fail, then the KX will automatically switch to the other.
Does the power supply used by Dominion KX II automatically detect voltage settings?	Yes. Dominion KX II's power supply can be used in AC voltage ranges from 100-240 volts, at 50-60 Hz.
If a power supply or input fails, will I be notified?	The KX II front panel LED will notify the user of a power failure. An entry will also be sent to the Audit Log and displayed on the KX Remote Client User Interface. If configured by the administrator, then SNMP or Syslog events will be generated.
What type of power control capabilities does Dominion KX II offer?	Raritan's Remote Power Control power strips can be connected to the Dominion KX II to provide power control of the target servers. After a simple one-time configuration step, just right click on the server name to power on, off or recycle a hung server. Note that a hard reboot provides the physical equivalent of unplugging the server from the AC power line, and reinserting the plug.
Does Dominion KX II support servers with multiple power supplies? What if each power supply is connected to a different power strip?	Yes. Dominion KX II can be easily configured to support multiple power supplies connected to multiple power strips. Up to eight (8) power strips can be connected to a KX II device. Four power supplies can be connected per target server to multiple power strips.
Does remote power control require any special server configuration?	Some servers ship with default BIOS settings such that the server does not automatically restart after losing and regaining power. For these servers, see the server's documentation to change this setting.
What type of power strips does Dominion KX II support?	To take advantage of Dominion KX II's integrated power control user interface, and more importantly, integrated security, use Raritan's Remote Power Control (RPC) power strips. RPCs come in many outlet, connector and amp variations. The D2CIM-PWR must be purchased to connect the RPC to the KX II.
Scalability	
How do I connect multiple Dominion KX II devices together into one solution?	Multiple Dominion KX II units do not need to be physically connected together. Instead, each Dominion KX II unit connects to the network, and they automatically work together as a single solution if deployed with Raritan's optional CommandCenter® Secure Gateway (CC-SG) management appliance. CC-SG acts as a single access point for remote access and management. CC-SG offers a significant set of convenient tools, such as consolidated configuration, consolidated firmware update and a single authentication and authorization database. In addition, CC-SG enables sophisticated server sorting, permissions, and access. If deployment of Raritan's CC-SG management appliance isn't an option, multiple Dominion KX II units still interoperate and scale automatically: The KX II's remote user interface and the Multiplatform Client will automatically discover Dominion KX II units. Non-discovered Dominion KX II units can be accessed via a user-created profile.

Questions	Answers
Can I connect an existing analog KVM switch to Dominion KX II?	Yes. Analog KVM switches can be connected to one of Dominion KX II's server ports. Simply use a PS/2 Computer Interface Module (CIM), and attach it to the user ports of the existing analog KVM switch. Please note that analog KVM switches vary in their specifications and Raritan cannot guarantee the interoperability of any particular third-party analog KVM switch. Contact Raritan technical support for further information.
Computer Interface Modules (CIMs)	
Can I use Computer Interface Modules (CIMs) from Raritan's analog matrix KVM switch, Paragon, with Dominion KX II?	Yes. Certain Paragon computer interface modules (CIMs) may work with Dominion KX II (please check the Raritan Dominion KX II release notes on the Web site for the latest list of certified CIMs). However, because Paragon CIMs cost more than Dominion KX II CIMs (as they incorporate technology for video transmission of up to 300 meters), it is not generally advisable to purchase Paragon CIMs for use with Dominion KX II. Also note that when connected to Dominion KX II, Paragon CIMs transmit video at a distance of up to 45 meters, the same as Dominion KX II CIMs – not at 300 meters, as they do when connected to Paragon.
Can I use Dominion KX II Computer Interface Modules (CIMs) with Raritan's analog matrix KVM switch, Paragon?	No. Dominion KX II computer interface modules (CIMs) transmit video at ranges of 15 to 45 meters and thus do not work with Paragon, which requires CIMs that transmit video at a range of 300 meters. To ensure that all Raritan's customers experience the very best quality video available in the industry – a consistent Raritan characteristic – Dominion Series CIMs do not interoperate with Paragon.
Security	
What kind of encryption does Dominion KX II use?	Dominion KX II uses industry-standard (and extremely secure) 128-bit RC4 or AES encryption, both in its SSL communications as well as its own data stream. Literally no data is transmitted between remote clients and Dominion KX II that is not completely secured by encryption.
Does Dominion KX II support AES encryption as recommended by the US Government's NIST and FIPs standards?	The Dominion KX II utilizes the Advanced Encryption Standard (AES) encryption for added security. AES is a US government approved cryptographic algorithm that is recommended by the National Institute of Standards and Technology (NIST) in the FIPS Standard 197.
Does Dominion KX II allow encryption of video data? Or does it only encrypt keyboard and mouse data?	Unlike competing solutions, which only encrypt keyboard and mouse data, Dominion KX II does not compromise security - it allows encryption of keyboard, mouse and video data.
How does Dominion KX II integrate with external authentication servers such as Active Directory®, RADIUS, or LDAP?	Through a very simple configuration, Dominion KX II can be set to forward all authentication requests to an external server such as LDAP, Active Directory or RADIUS. For each authenticated user, Dominion KX II receives from the authentication server the user group to which that user belongs. Dominion KX II then determines the user's access permissions depending on what user group to which he or she belongs.
How are usernames and passwords stored?	Should Dominion KX II's internal authentication capabilities be used, all sensitive information such as usernames and passwords are stored in an encrypted format. Literally no one, including Raritan technical support or Product Engineering departments, can retrieve those usernames and passwords.

Questions	Answers
Does Dominion KX II support strong password?	Yes. The Dominion KX II has administrator-configurable, strong password checking to ensure that user created passwords meet corporate and/or government standards and are resistant to brute force hacking.
Manageability	
Can Dominion KX II be remotely managed and configured via Web browser?	Yes. Dominion KX II can be completely configured remotely via Web browser. Note that this does require that the workstation have an appropriate Java™ Runtime Environment J.R.E version installed. Besides the initial setting of Dominion KX II's IP address, everything about the solution can be completely set up over the network. (In fact, using a crossover Ethernet cable and Dominion KX II's default IP address, you can even configure the initial settings via Web browser).
Can I backup and restore Dominion KX II's configuration?	Yes. Dominion KX II's device and user configurations can be completely backed up for later restoration in the event of a catastrophe. Dominion KX II's backup and restore functionality can be used remotely over the network, or through a Web browser.
What auditing or logging does Dominion KX II offer?	For complete accountability, Dominion KX II logs all major user events with a date and time stamp. For instance, reported events include (but are not limited to): user login, user logout, user access of a particular server, unsuccessful login, configuration changes, etc.
Can Dominion KX II integrate with syslog?	Yes. In addition to Dominion KX II's own internal logging capabilities, Dominion KX II can send all logged events to a centralized syslog server.
Can Dominion KX II integrate with SNMP?	Yes. In addition to Dominion KX II's own internal logging capabilities, Dominion KX II can send SNMP tracks to SNMP management systems like HP Openview and Raritan's CC-NOC.
Can Dominion KX II's internal clock be synchronized with a timeserver?	Yes. Dominion KX II supports the industry-standard NTP protocol for synchronization with either a corporate timeserver, or with any public time server [assuming that outbound NTP requests are allowed through the corporate firewall].
Miscellaneous	
What is Dominion KX II's default IP address?	192.168.0.192
What is Dominion KX II's default username and password?	The KX II's default username and password are **admin**/**raritan** [all lower case]. However, for the highest level of security, the KX II forces the administrator to change the Dominion KX II default administrative username and password when the unit is first booted up.
I changed and subsequently forgot Dominion KX II's administrative password; can you retrieve it for me?	KX II contains a hardware reset button that can be used to factory reset the device, which will reset the administrative password on the device to the default password.